

# GOING DIGITAL PAYS DIVIDENDS FOR MILL OPERATORS

## TENSION CONTROL APPLICATIONS

Upgrading to Moog Digital Servo Valves can deliver significant performance enhancements to plant as well as enable the introduction of preventative maintenance diagnostics.

### PROBLEM:

A paper rolling mill operator wanted to upgrade their machinery with a new electronic interface to assist with the accuracy of the calliper profile which used internal hydraulic pistons, as well as speeding up the profiling process with improved closed-loop control. Cost and ROI were key considerations, with technical support from ordering through to commissioning also influencing the buying decisions.

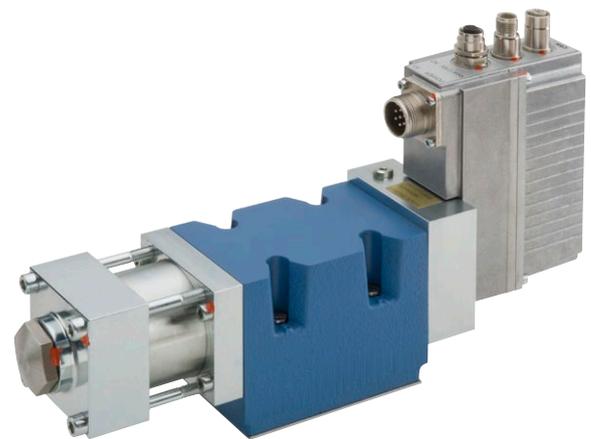
### SOLUTION:

After testing a prototype digital valve with the customer's machine manufacturer, Moog supplied 18 x D639 Profibus Servo Valves with integrated pressure sensors to replace the existing analogue servo valves.

The upgrade met the customer's goal of improving the machine performance and also delivered a number of additional advantages including:

- Better static and dynamic performance via higher resolution and advanced control electronics
- Utilisation of the same electrical command signals, meaning fewer changes in the automation system
- Higher reliability and uptime as well as better machine safety
- Lower maintenance costs and cost of ownership
- Digital electronics enabling superior pressure control
- Profibus communication allowing the customer to take advantage of the diagnostic functions and internal valve error handling integrated in the digital valves

The new digital servo valves were installed and commissioned in under two days, minimising downtime, and the customer also received a day's training on Profibus.



Digital Servo Valves maximise machine productivity, improve uptime and lower maintenance costs.

# UPGRADING A PAPER ROLLING MILL FROM ANALOGUE TO DIGITAL SERVO VALVES

NIP PRESSURE APPLICATIONS

With a preventative maintenance regime in place, a French mill was ready to replace their valves even though they had not been malfunctioning. Although an upgrade to Moog D638 Direct Drive Digital Control Servo Valves was offered, the customer decided to replace their Moog D635 Servo Valves like-for-like.

## PROBLEM:

The customer's machine was eight years old and despite heavy usage there had not been a valve malfunction or any other issues with the valves. However, during a short outage they wanted a vendor to install replacement valves used in a nip pressure application, as well as new valve connection cables.

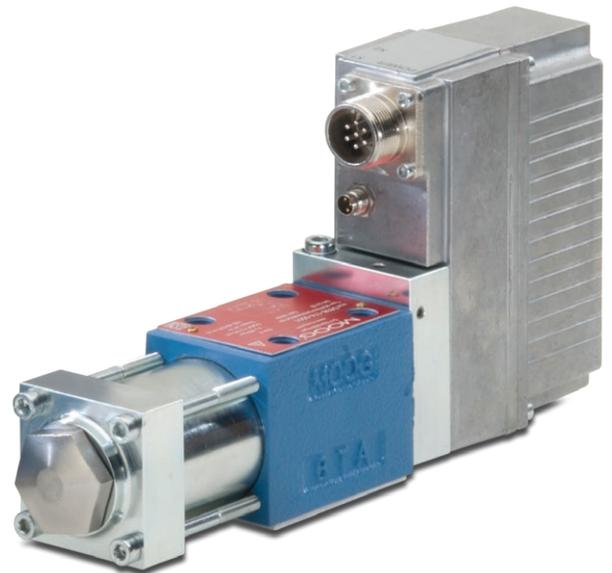
## SOLUTION:

Via a distributor who had a good relationship with the mill, Moog offered the customer the choice of either upgrading to D638 Digital Servo Valves or replacing the existing D635 Servo Valves.

The customer decided to opt for a like-for-like replacement of new Moog D635 Servo Valves and connecting cables through the Moog distributor, since they did not want to risk delaying the recommissioning of the machine after the outage by introducing new valves. This was carried out quickly and efficiently.

In addition, Moog delivered comprehensive training to the mill maintenance team about Servo Valve function in general and the function of their specific valve model. The training also included basic troubleshooting and how to use the portable valve tester.

The overall project was a great success: the outage time was met and there were no issues when the machine was restarted. It has now been running efficiently for a year without any problems.



High-performance pressure control with higher dynamics and the ability to easily and exactly tune the pressure controller gain

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